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A COLLECTION OF ACRIDIDAE MADE IN SOUTHERN RHODESIA (ORTHOPTERA)

By N. C. E. Miller, F.R.E.S.

The Acrididae mentioned in this paper were collected by my wife and I in the following localities—Amandas, Shamva, Umvukwe Hills, Selukwe, the Umtebekwe River (about twenty-five miles from Selukwe), Zimbabwe and the Victoria Falls.

Amandas is situated about forty-seven miles E.N.E. of Salisbury, the type of country in its neighbourhood being mostly semi-open bush in which *Berlinia* sp. appeared to be the dominant tree, interspersed with open grassland and cultivated areas, in which maize, tobacco and sann hemp are grown. The elevation above sea-level is about 5,000 feet, and the average rainfall 50 inches or so.

The area in which Acrididae were collected at Shamva was a patch of bush close to the township. Here, most of the larger trees had been cut, leaving low bushes in clumps.

Open grassland with granite outcrops and occasional " vlei " areas are a feature of the Umvukwe Hills, the elevation of the part in which we collected being approximately 5,200 feet.

Most of the collecting at Selukwe (4,000 feet) was carried out in a valley through which a narrow stream ran. The lower part of the valley was swampy and consequently well covered with luxuriant grass. The slopes of the hills on each side of the stream are rocky, somewhat bare of grass, and moderately densely wooded, the most abundant tree being *Uapaca Kirkiana*.

The country on each side of the Umtebekwe River (3,000 feet) is composed of thorn-bush mostly, with high grass. All the Acrididae taken here were captured on the river bank.

At Zimbabwe we collected on the open grassland below the Acropolis hill and in the bush near the Elliptical temple and other ruins.

Only a little collecting was done at the Victoria Falls, this being in the dry-bush area south of the Falls, and at the base of the Falls where the vegetation is very luxuriant, being continually drenched by spray.

I am greatly indebted to Dr. B. P. Uvarov of the Imperial Institute of Entomology, and to Dr. Ramme of the Berlin Museum for their kind assistance in the preparation of this paper. My thanks are also due to Professor Candido Bolivar y Pieltain for his assistance in the determination of the Eumastacinae, and for permitting me to examine the collection of this sub-family in the Museo de Ciencas Naturales, Madrid.

The types of the new species are deposited in the British Museum (Natural History).

Eumastacinae.

Penichrotes strigilifer sp. n. (fig. 1).

Green. Antennae dark brown, except 3 segments at base, green. Eyes brown. Spines at apex of posterior femora and on posterior tibiae, black. In the dried specimen the colour is brownish-ochreous.

Antennae moniliform, becoming narrower towards apex; feebly laterally compressed; apical segment acute. Eyes ovate, with the front and lower margins almost straight;

interocular distance sub-equal to width of fastigium of vertex near apex; fastigium of vertex from above bilobate, slightly wider behind than in front. Margins of frontal ridge from the front irregularly sinuate; frontal ridge irregularly sulcate throughout; in profile feebly sinuate; surface of head smooth. Pronotum sub-tectiform; anterior margin of disc feebly concave; posterior margin obtuse angulate with the sides feebly rounded; anterior margin of lateral lobes almost straight; lower and posterior margins feebly sinuate;

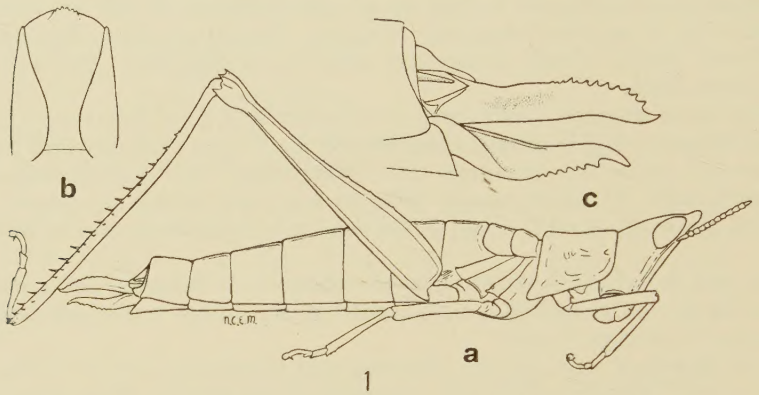

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Fig. 1.—*Penichrotes strigilifer* sp. n., *a*. side view; *b*. sub-genital plate; *c*. ovipositor valves, side view.

margins thickened; median carina of disc in profile feebly concave; lateral lobes with irregular depressions and sulci. Meso and metanotum and abdomen carinate dorsally. Upper and upper inner and outer carinae of posterior femora terminating in short spines. Posterior tibiae with 20 spines on outer margin and 17 spines on inner margin, the spines on inner margin being considerably the longer. Genitalia as figured.

Total length, 34·0 mm.; pronotum, 3·5 mm.; posterior femora, 14·5 mm.

Described from 1 ♀, Selukwe, 4.iv.1934.

Pseudothericles porcellus sp. n. (fig. 2).

Antennae with 2 basal segments brownish-ochreous, remainder dark ferruginous. Eyes brown. Head brownish-ochreous with a spot on each side of frontal ridge above the eyes and a broad stripe below the eyes dark brown. Vertex, disc of pronotum and abdomen dorsally dark ferruginous. Lateral lobes, pleura, abdomen laterally pale brownish-ochreous; sternites laterally dark ferruginous, remainder brownish-ochreous. Abdomen ventrally pale brownish-ochreous, with a dark ferruginous suffusion laterally. Legs ochreous; posterior femora with a ferruginous spot medially on inner and outer faces; knee blackish-brown; posterior tibiae with irregular dark brown spots at base, and the apices of the spines dark brown. *Eyes* moderately prominent, ovate, with the front and lower margins almost straight. Fastigium of vertex from above triangular, with the sides raised, very feebly angulate and extending along inner margin of eyes; the apex rounded and with a median longitudinal carina which extends to base of head. Frontal ridge from the front sulcate throughout, margins parallel, slightly arcuate at median ocellus; in profile feebly sinuate; supplementary carinae sinuate. Anterior margin of disc of pronotum rounded; posterior margin concave; anterior margins of lateral lobes rounded; posterior margins rounded, but somewhat irregular; lower margins almost straight; upper area with irregular depressions; lower anterior area laterally compressed; abdomen carinate dorsally. Upper carina on posterior femora and genicular arches terminating in a short spine. Male and female genitalia as figured.

Total length, ♂, 11·5 mm., ♀, 17·0 mm.; pronotum, ♂, 2·0 mm., ♀, 2·5 mm.; posterior femora, ♂, 8·0 mm., ♀, 9·5 mm.

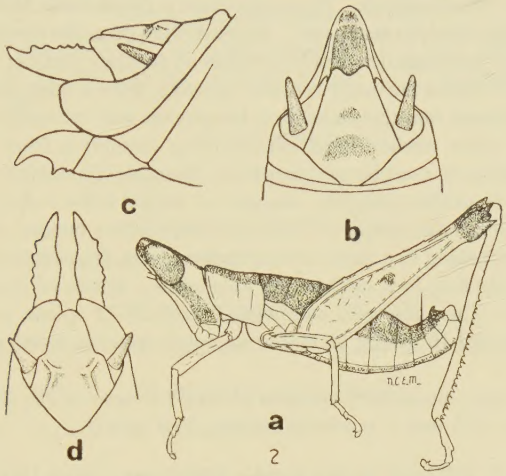


FIG. 2.—*Pseudothericles porcellus* sp. n., *a*. side view; *b*. apex of abdomen, from above; *c*. ditto, side view; *d*. ditto, from above.

Described from 1 ♂ (type), and 2 ♀♀, Amandas, 10.iii.1934.

Thericles asellus sp. n. (fig. 3).

Antennae greenish-ochreous, with a dark brown suffusion in apical half. Head and body greenish-ochreous. Eyes brown. Head with a broad post-ocular, and a narrow stripe extending from lower margin of eyes to lower anterior angle of genae, black. Lateral

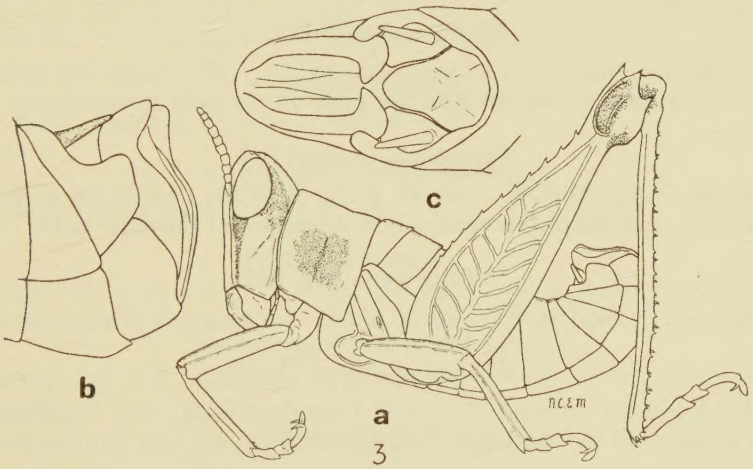


FIG. 3.—*Thericles asellus* sp. n., *a*. side view; *b*. apex of abdomen, side view; *c*. ditto, from above.

lobes of pronotum with a brownish-black suffused spot. Outer margins of meso and metanota and upper margins of epimera and episterna suffused with dark brown. Anterior and median femora greenish-ochreous; posterior femora greenish or greenish-ochreous, with the spines, sides of knees and posterior margins of genicular lobes, black. Posterior

tibiae pale brownish-ochreous with a faint reddish suffusion, a blackish area on each side of base, and a narrow black stripe on inner surface in basal half, and the spines black. Antennae moniliform, 10-segmented. Eyes sub-ovate; interocular distance about twice the width of frontal ridge between antennae. Frontal ridge from the front, sulcate throughout, margins thickened and parallel, feebly arcuate at median ocellus; in profile almost straight. Fastigium of vertex narrowly rounded apically, with a deep median longitudinal sulcus, and with the lateral margins extending backwards and strongly divergent to base of head; vertex with a low median longitudinal carina extending from base of fastigium to base of head. Anterior margin of pronotum straight; posterior margin concave; median carina of disc in profile straight; margins of lateral lobes feebly sinuate; surface of disc rugulose, of lateral lobes smooth. Anterior and median femora with three longitudinal carinae each terminating in a short spine; upper carina of posterior femora with 9–10 short spines, and terminating in a moderately long spine; apices of genicular arches and lobes acute. Posterior tibiae laterally compressed with 15–17 spines including an apical spine on outer margin, and 16 spines, including an apical spine on inner margin. Genitalia as figured.

Total length, 13·5 mm. (measured from apex of vertex to apex of 9th abdominal segment, ventrally); pronotum, 2·25 mm.; posterior femora, 10·0 mm.

Described from 4 ♂♂ (one is the type), Amandas, 10.iii.1934.

This species appears to be semi-gregarious, the individuals described being captured while feeding on a low plant, probably a species of Solanaceae.

PYRGOMORPHINAE.

Phymateus viridipes Stål.

Selukwe, 1 ♂, 30.iii.35, 1 ♀, 19.iv.35, 1 ♀, 14.iv.35. In semi-open bush country. Occasionally seen flying; flight sometimes over a considerable distance.

Maura marshalli Bol.

1 ♀, Selukwe, 30.iii.35; 1 ♀, Amandas, 8.iii.35. The ♀ captured at Selukwe on shrub near stream, the other on low plant in partially cleared bush.

Taphronota poultoni Bol.

Selukwe, 7 ♂♂, 28.iii.35, 14.iv.35, 4 ♀♀, 28.iii.35. All on trees or bushes near stream. Larvae of this species were abundant at the same time.

Taphronota stali Bol.

Selukwe, 1 ♂, 30.iii.34, 6 ♀♀, 28–30.iii.35. On trees and bushes near stream.

Zonocerus elegans Thunbg.

2 ♂♂, Amandas, 15.iii.35; 1 ♂, 1 ♀, Umvukwe Hills; 1 ♀, Umtebekwe R., in long grass, 23.iii.35; Amandas, 1 ♀, 6.iii.35, 5 ♀♀, 15.iii.35, in grass in cleared bush.

Chrotogonus sp.

1 ♀, Selukwe, 19.iv.35. Bare ground.

Pyrgomorpha sp.

1 ♀, Selukwe, 25.iii.35. Swampy area near stream.

ACRIDINAE.

Acrida sulphuripennis Gerst.

4 ♂♂, Zimbabwe, 9.iv.35, in open grassland; 4 ♀♀, Selukwe, 19–28.iii.35, in grass; 2 ♂♂, Umtebekwe R., in long grass; 1 ♂, Amandas, 16.iii.35; 1 ♀, Ilundi R., 10.iv.35.

Acrida turrita L.

Selukwe, 1 ♂, 14.iv.35, 1 ♀, 14.iv.35, in grass.

Hemiacris fervens Walk.

1 ♂, Selukwe, 14.iv.35, on low bush.

Acrotylus patruelis H. Sch.

1 ♂, Selukwe, 28.iii.35; Amandas, 1 ♂, 9.iii.35, 1 ♀, 15.iii.35, on open ground.

Acrotylus furcifer Sauss.

1 ♀, Selukwe, 19.iv.35, on open ground.

Acrotylus sp. n.

1 ♀, Selukwe, 28.iii.35, on open ground.

Prostethophyma cephalica Bol.

3 ♂♂, Shamva, 7.iii.35; 4 ♂♂, Umtebekwe R., 24.iii.35; 1 ♀, Zimbabwe, 9.iv.35; 1 ♀, Shamva, 7.iii.35; 3 ♀♀, Umtebekwe R.; 1 ♀, Selukwe.

Paracomacris stenopterus Schaum.

Selukwe, 2 ♂♂, 14.iv.35, 1 ♂, 19.iv.35, 1 ♂, 28.iii.35; 2 ♂♂, Zimbabwe, 9.iv.35; 1 ♂, Umtebekwe R., 24.iii.35; Selukwe, 3 ♀♀, 14.iii.35, 3 ♀♀, 28.iii.35; 1 ♀, 20.iii.35; 2 ♀♀, Zimbabwe, 9.iv.35; 1 ♀, Amandas, 10.iii.35.

* *Aulacobothrus* sp. n.

1 ♂, 2 ♀♀, Shamva, 7.iii.35, in cleared bush.

Gymnobothrus temporalis Stål.

Selukwe, 1 ♀, 20.iii.35, 1 ♀, 14.iv.35.

Pnorisa squalus St.

Selukwe, 2 ♂♂, 14.iv.35, 1 ♂, 2 ♀♀, 19.iv.35; 2 ♂♂, 2 ♀♀, Zimbabwe, 9.iv.35.

Spathosternum pygmaeum Karsch.

Selukwe, 1 ♂, 1 ♀, 14.iv.35, 1 ♀, 30.iii.35, 1 ♀, 19.iv.35, in swampy ground near stream.

Oxya viridivitta Walk.

2 ♂♂, 14.iv.35, 1 ♂, 19.iv.35, 3 ♀♀, 24–28.iii.35, in swampy area near stream.

Platypternoides sp.

1 ♀, Zimbabwe, 9.iv.35.

Orthoctha sp.

6 ♂♂, 5 ♀♀, Umtebekwe R., 24.iii.35.

* This species will be described by Dr. B. P. Uvarov.

Orthoctha sp.

1 ♂, 2 ♀♀, Shamva, 7.iii.35.

Cymochtha prasina Bol.

1 ♂, 2 ♀♀, Shamva, 7.iii.35; 1 ♂, 2 ♀♀, Amandas, 10.iii.35.

OEDIPODINAE.

Morphacris fasciata Thunbg.

1 ♂, Amandas, 5.iii.35; Selukwe, 1 ♂, 30.iii.35, 2 ♀♀, 28.iii.35. On open ground. The male taken at Amandas extruded from behind the pronotum a trilobate vesicle, when it was taken from the net. This remained extruded for a short time, and was then withdrawn (fig. 4).

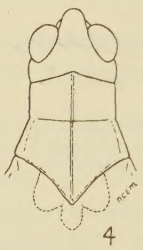


FIG. 4.—*Morphacris fasciata* Thunbg., to show trilobate vesicle extruded behind pronotum.

Gastrimargus femoralis Sjöst.

5 ♂♂, Umtebekwe R., 24.iii.35; 1 ♂, Amandas, 16.iii.35; 1 ♂, Selukwe, 30.iii.35.

Gastrimargus volkensi Sjöst.

1 ♂, Umvukwe Hills, 9.iii.35; 1 ♀, Umtebekwe R., 24.iii.35.

Gastrimargus africanus Sauss.

1 ♂, Shamva, 7.iii.35; 2 ♀♀, Zimbabwe, 9.iv.35.

Gastrimargus clepsydrae Sjöst.

1 ♂, Selukwe, 19.iv.35.

Oedaleus citrinus Sauss.

2 ♂♂, Shamva, 7.iii.35; 2 ♀♀, Zimbabwe, 9.iv.35.

Oedaleus nigrofasciatus de Geer.

2 ♀♀, Selukwe, 30.iii.35.

Oedaleus carvalhoi Bol.

7 ♂♂, 3 ♀♀, Zimbabwe, 9.iv.35.

Oedaleus dilutus Miller.

1 ♀, Shamva, 7.iii.35; 1 ♀, Selukwe, 14.iv.35.

Aiolopus sp.

1 ♀, Selukwe, 28.iii.35.

Aiolopus sp.

1 ♂, Umvukwe Hills, 9.iii.35; 1 ♀, Selukwe, 28.iii.35.

Humbe tenuicornis Schaum.

3 ♂♂, 3 ♀♀, Umtebekwe R., 24.iii.35.

CATANTOPINAE.

Acanthacris lineata Stoll.

1 ♀, Selukwe, 28.iii.35. This species was moderately abundant, and was seen mostly on low bushes.

Nomadacris septemfasciata Serv.

1 ♂, Selukwe, 19.iv.35.

Cyrtacanthacris aeruginosa Stoll.

1 ♂, Selukwe, 19.iv.35.

Rhytidacris punctata Kirby.

1 ♂, Selukwe, 20.iv.35.

Bryophyma debilis Karsch (subsp. *sigillata* Bol.?)

Amandas, 1 ♂, 8.iii.35, 2 ♀♀, 15.iii.35.

Thisoicetrus pulchripes Schaum.

1 ♀, Amandas, 8.iii.35.

Heteracris sp.

1 ♀, Selukwe, 19.iv.35; 3 ♀♀, Umtebekwe R., 24.iii.35.

Cataloipus oberthuri Bol.

3 ♂♂, 1 ♀, Shamva, 7.iii.35.

Tylotropidius gracilipes Brancs.

1 ♀, Zimbabwe, 9.iv.35.

Caloptenopsis pallidicornis Stål.

Selukwe, 1 ♂, 14.iv.35, 1 ♂, 19.iv.35, 2 ♀♀, 19–30.iv.35; 1 ♂, 2 ♀♀, Zimbabwe, 9.iv.35; 2 ♀♀, Umtebekwe R., 24.iii.35.

Acrophymus sp.

1 ♀, Victoria Falls, 1.v.35.

Acrophymus rhodesianus sp. n. (fig. 5).

Antennae filiform, about as long as head and pronotum together. Interocular distance sub-equal to greatest fastigial width; fastigium of vertex from above truncate or broadly rounded apically, with the sides obtuse angulate and the surface concave; frontal ridge in profile almost straight; from the front, margins parallel, feebly constricted at junction with vertex, widening and obsolescent below median ocellus; surface feebly depressed

below ocellus and with scattered punctures; supplementary carinae sinuate to a spot level with the lower margin of eyes, thence obsolescent. Anterior margin of pronotal disc broadly obtuse angulate with a very feeble median indentation; posterior margin broadly rounded, somewhat truncate medially; anterior margins of lateral lobes almost straight; posterior margins straight for a greater part of their length, then feebly angulate; lower margins broadly obtuse angulate; median carina distinct, intersected by three transverse sulci, the third beyond the middle; lateral carinae irregular, obsolescent in metazona.

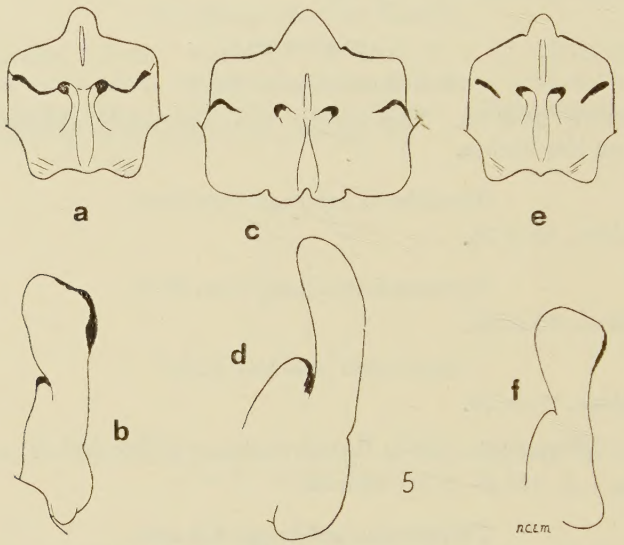


Fig. 5.—*Acrophymus rhodesianus* sp. n. ♂, *a*. supra-anal plate; *b*. cercus; *A. cuspidatus* Karsch, ♂, *c*. supra-anal plate; *d*. cercus; *A. squamipennis* Brancs., ♂, *e*. supra-anal plate; *f*. cercus.

Elytra sub-pyriform, moderately narrowly rounded apically, reaching to apical margin of 1st abdominal segment in male, and to the middle of the 2nd abdominal segment in the female. Prosternal spine conical, sub-mucronate. Male supra-anal plate and cerci as figured. Brown. Sternites and abdomen ventrally pale ochreous. Metazona of lateral lobes with a quadrate, dark brown area. Elytra with a longitudinal, moderately broad, light brown or brownish-ochreous stripe. Lower part of outer face, lower and inner faces of posterior femora greyish; upper faces with three blackish, somewhat indistinct transverse fasciae. Posterior tibiae ochreous with irregular dark brown spots basally; spines black. Tubercles and part of apical margin of supra-anal plate, lower apical margin of cerci black.

Total length, ♂, 22–24·5 mm., ♀, 26–28·0 mm.; pronotum, ♂, 6·0 mm., ♀, 5·5–7·0 mm.; elytra, ♂, 5·0 mm., ♀, 5·5 mm.; posterior femora, ♂, 13·5 mm., ♀, 13·5 mm.

Described from Amandas, 2 ♂♂, 15.iii.35; Selukwe, 2 ♂♂, 19.iv.35, 1 ♂, 28.iii.35; Amandas, 1 ♀, 8.iii.35, 1 ♀, 16.iii.35; Selukwe, 1 ♀, 19.iv.35, 1 ♀, 22.iv.35; 1 ♀, Shamva, 7.iii.35; 1 ♂, from Amandas, the type.

Figures of the supra-anal plates and cerci of *Acrophymus cuspidatus* Karsch, and of *A. squamipennis* Brancs., are given for comparison (fig. 5).

Ischnacrida pretoriae Miller.

3 ♂♂, Umtebekwe R., 24.iii.35. Long grass near river bank.

Anthermus sp.

1 ♀, Selukwe, 14.iv.35.

Eupropacris rammei sp.n.

Antennae slightly shorter than head and pronotum together. Eyes ovate with the front margin almost straight; interocular distance sub-equal to width of frontal ridge between antennae; frontal ridge in profile very feebly concave; from the front, margins parallel, feebly constricted below ocellus, thence becoming obsolescent; lateral facial carinae almost straight; fastigium of vertex from above rounded apically, surface finely punctate. Anterior margin of pronotal disc broadly rounded, with a feeble median concavity; posterior margin obtuse angulate with the angle rounded; anterior margins of lateral lobes sinuate; posterior margins straight; lower margins obtuse angulate, with the anterior half feebly concave; median carina of disc feebly indicated; disc intersected by three transverse sulci, the third being at the middle; median carina in profile straight, prosternal spine cylindrical, rounded apically. Inner margins of mesosternal lobes rounded, separated by less than half the width of a lobe; inner margins of metasternal lobes rounded, sub-contiguous. Posterior femora with the upper carina serrate and the oblique ridges regular. Posterior tibiae with 8 or 9 spines on outer margin, and 10 or 11 spines on inner margin. Elytra with the costal lobe moderately well developed and the apex rounded; reaching to slightly more than half the length of posterior tibiae. Apical margin of subgenital plate truncate with a feeble median projection; supra-anal plate triangular with a median transverse carina and the apex rounded. General coloration olivaceous. Antennae black with the two basal segments olivaceous. Eyes light brown. Space between genicular arches and lobes, base of knee on upper inner surface, base of inner lobes of posterior femora, and base of posterior tibiae greenish-black; posterior tibiae and tarsi ochreous; apex of spines black. Wings ochreous.

Total length, 39·0 mm.; pronotum, 9·75 mm.; elytra, 39·0 mm.; posterior femora, 21·75 mm.

Described from 1 ♀, Victoria Falls, 2.v.35. In moderately dense vegetation growing near base of Falls near the so-called " Boiling Pot." This is situated on the N. Rhodesian bank.

This fine species was submitted to Dr. Ramme of the Berlin Museum, who very kindly examined it, and expressed the opinion that it should be placed in the genus *Parapropacris*, near *vana* Karsch.

Dr. Uvarov of the Imperial Institute of Entomology, who has also examined the specimen, states, however, that it should be placed in the genus *Eupropacris*, near *pompalis* (Karsch), which species it closely resembles, particularly in the structure of the pronotum.

Catantops adustus Walk.

Selukwe, 1 ♂, 14.iv.35, 1 ♀, 14.iii.35, 2 ♀♀, 28.iii.35.

Catantops sulphureus Walk.

1 ♂, 1 ♀, Amandas, 16.iii.35; 1 ♀, Selukwe, 30.iii.35.

Catantops melanostictus Schaum.

1 ♂, 3 ♀♀, Umtebekwe R., 24.iii.35; 1 ♀, Selukwe, 28.iii.35.

Catantops maculatus Karny.

1 ♂, Amandas, 16.iii.35; 1 ♂, Umtebekwe R., 24.iii.35; 1 ♂, Zimbabwe, 9.iv.35; 1 ♀, Selukwe, 28.iii.35; 2 ♀♀, Umtebekwe R., 24.iii.35.

THE DESCRIPTION OF *ACRAEA KALINZU* SP. N. (LEPIDOPTERA)

By G. D. Hale Carpenter.

(*Hope Professor of Zoology (Entomology) in the University of Oxford.*)

With Plate 1.

Mr. T. H. E. Jackson, of Kitale, Kenya Colony, when collecting in Kalinzu forest, western Uganda, took four male specimens of an *Acraea* new to me, three of which he kindly presented to the Department of Entomology, University Museum, Oxford. I was unable to identify the species as anything in the collection, or in the British Museum (Natural History), but found in the collection of Lord Rothschild at Tring a female which is probably the same species. It appeared from the description of *A. quirina burgeoni* Schouteden that the specimens might come under that name, but M. Burgeon himself, to whom photographs were sent, reported that *burgeoni* was not like the photograph, being obviously a form of *quirina*. It also appeared possible, from le Doux's description of *A. rileyi* that the Kalinzu butterflies might be that species, but Dr. le Doux, to whom photographs were also sent, reported that *rileyi* was quite different from the photograph. It therefore appears that Mr. Jackson has added yet another new species to the butterflies of Africa, and I describe it hereunder as *A. kalinzu*.

The forest, Kalinzu, in which the specimens were collected in January 1935, lies in Ankole, on the escarpment east of Lake Edward, about 33 miles from Kazinga channel, at 4700—5000 feet elevation. Mr. Jackson described it as a very wet forest, dense mists are common, and rain falls at any time during the day and almost throughout the year. It occupies about 12 square miles of quartzite or granitic country, with conglomerate in large exposed boulders.

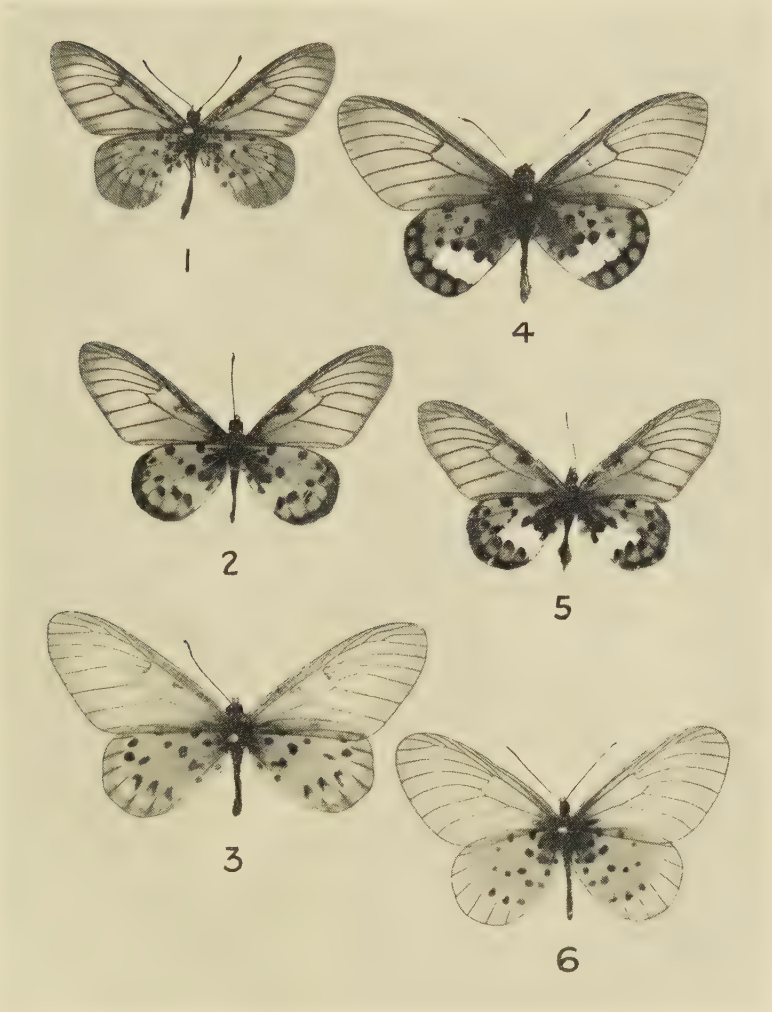
Acraea kalinzu sp. n.

♂. Transparent, bright red and brownish-black. Has a general resemblance to *A. iturina* Gr.-Sm., but the black border to the hind-wing is narrower, and the outer row of black spots more distally placed.

Upper surface. Fore-wing. From the base to the end of cell 1a, junction of inner third with middle third of vein 1, and the middle of the cell, red. At the edge of the red in the cell, on the subcostal nerve, is an ill-defined black spot stretching towards base of area 2 but not reaching the median nerve. Rest of the wing brownish-black, the discal part being more transparent than the apex and hind margin. The scales over the black part of the wing are very reduced in number and size, being hair-like, especially distally. They are less reduced on the intracellular spot and on the discocellular nerves, where another ill-defined spot is formed. *Hind-wing.* The greater part is of the same bright red as the base of the fore-wing : there is a narrow black unspotted border (which at once distinguishes the species from *iturina*, *quirina*, or *quirinalis*) measuring 2 millimetres at its widest part (on vein 6). The spots on the hind-wing may be considered as in three series, from base outwards.

First series : 1 in area 7, 1 at base of cell, 1 at base of area 1*c* and covering the base of vein 1.

Second series : a discal row, not quite in a uniform line, formed as follows :—1 in area 7, just distal to origin of vein 7 ; 1 in angle at extreme base of area 5 ; 1 in middle of cell ; 1 in area 1*c*, appearing to be compounded of two partially fused, just proximal to origin of vein 2 ; 1 in area 1*a*, nearer base of wing than last. There is also 1 in area 1*b* more distally placed than either of the last two.



1. *Acraea quirinalis*, ♂. Budongo forest, Western Uganda, 1934.
2. *A. k. kalinzu* sp. n. ♂ Holotype.
3. „ „ „ ♀ Allotype.
4. *A. admatha leucographa*, ♂. North Kavirondo, Kenya Colony. Similar to Budongo specimens, 1934.
5. *A. kalinzu albipicta* var. n. ♂ Holotype.
6. *A. quirina*, ♂. Entebbe, Uganda, 1911.

Photograph by Imperial Forestry Institute, Oxford. Life size.

Third series: near the outer edge of the red area and thus very near the margin of the wing forming one of the characteristic features of the species. 1 in area 6; 1 in area 5; 1 in area 4 much nearer base of wing and close to the discocellular nerve, elongated to fit in to the narrow base of the area; 1 in area 3; 1 in area 2; 1 in area 1*c*.

Fig. 1.—*Acraea kalinzu* sp. n., outer view of left clasper.

Under surface. Like the upper surface, the spots being in the same positions and more strongly marked. The red colour of the hind-wing considerably suffused with white especially near base of wing.

Head black. Palpi dull yellow with black hairs. Lateral tuft on collar behind eye, yellowish-white.

Thorax and abdomen black: abdomen with ventro-lateral yellowish longitudinal line, and a yellowish lateral spot on each segment.

Expanse of fore-wings, 52 mm. in holotype, 53 mm. in paratype.

Both from Kalinzu forest, January 1935 (*T. H. E. Jackson*). In Department of Entomology, Oxford University Museum.

Allotype ♀. The unique specimen on which this description is based is in the collection of Lord Rothschild, F.R.S., who has kindly allowed me to examine and photograph it. It bears the following data: "Forest 90 km. west of L. Albert-Edward, Febr. 1908, 1000 m. (*R. Grauer*)." It thus comes from a locality close to that of the males. It differs from the male by the duller, more rusty-coloured red, but this may be due to the age of the specimen captured 28 years ago. Expanse of fore-wings 60 mm. The distal spots of the hind-wing in areas 3, 2, 1*c* are rather like crude arrow-heads pointed inwards, and not so solid as in the male.

Acraea kalinzu var. **albipicta** var. n.

A single male, taken by Mr. Jackson at the same time and place as his other two, is of the greatest interest, as it illustrates a phenomenon of considerable rarity in the genus *Acraea*, namely synaposematic resemblance by the *male* to another species. While the nominotypical form has a slight resemblance to *quirinalis* Gr.-Sm., or *iturina* Gr.-Sm., this variety has a large pure white patch on the inner half of the hind-wings which gives it a close resemblance to the form *leucographa* Ribbe of *A. admatha* Hew., a common and widely distributed butterfly. It can, however, be at once distinguished from the latter by the completely unspotted black border of the hind-wing.

Holotype ♂. Differs from the nominotypical form by having in the hind-wing the parts of the areas from 3 to the inner margin, between the most distal and the central rows of black spots, pure shining white. In addition the end of the cell distal to the black intracellular spot, and the angle at the base of area 4 central to the black spot in that area,

are strongly dusted with white scales. The costal area of the wing, in area 7, is also suffused with white, forming a white streak. The white patch is equally visible on the underside of the hind-wing, the whole of which is whiter than in the nominotypical form. The area which is white on the upperside in *albipicta* can be detected in the nominotypical form as slightly paler in colour than the rest of the red area. Expanse of fore-wing 50 mm. The genitalia of this male are the same as those of the nominotypical form. A sketch of the clasper accompanies this description.

Holotype in Department of Entomology in the University Museum, Oxford.

A REMARKABLE NEW ANT-LIKE LYGAEID FROM EGYPT (HEMIPTERA HETEROPTERA)

By W. E. China, M.A.

(*Dept. of Entomology, British Museum (Nat. Hist.).*)

Communicated by Prof. G. D. Hale Carpenter, F.R.E.S.

Thanks to the courtesy of Dr. H. Priesner of the Egyptian Agricultural Service, Cairo, I have been able to study a small series of a wonderful new ant mimic found under Imperata grass in Egypt. It proves to be a new species representing a new genus of the subfamily Rhyparochrominae tribe Myodochini.

Aegyptocoris gen. n.

Head large globose strongly constricted at base into a short cylindrical neck; clypeus prominent; eyes small; ocelli absent; rostrum only slightly longer than head including neck, the two basal segments together much shorter than head; antennae normal; upper surface armed with fine regularly disposed setae including one in front of each eye; posterior constriction (neck) much shorter than pronotum. *Pronotum* in brachypterous form, constricted behind middle; anterior lobe globose, about twice as long as and distinctly broader than the posterior lobe; anterior collar narrow and indistinctly delimited; posterior lobe strongly transverse, much less elevated than anterior lobe, distinctly though somewhat irregularly punctate. Lateral margins not carinate. In macropterous form pronotum constricted about the middle, posterior lobe nearly twice as wide as anterior lobe its posterior lateral angles rounded and tumescent. Scutellum longer than broad at base which is strongly elevated, disc concave, apex reflexed into a sub-acute tumescent process. Hemielytra strongly abbreviated in brachypterous form, extending to apex of fourth abdominal pleurite, widening towards apex which is obliquely truncate, clavus fused with corium; distinctly punctate; membrane absent. In macropterous form the hemielytra extend slightly beyond apex of abdomen; clavus with three rows of punctures one down claval suture, another less distinct down scutellar margin and another down middle; corium with one row down claval suture, another along median nervure and a patch of more or less regular punctures in middle of disc. Posterior lateral angle of meta-pleuron, dilated

laminate and sub-acute, the posterior margin oblique. Front femora strongly swollen, armed beneath with two rather irregular rows of larger and smaller teeth; tibiae with a few indistinct bristles; posterior tarsus with basal segment about twice as long as second and third together. Abdomen narrowed at base, apical two-thirds swollen, connexivum strongly reflexed and elevated above dorsum; 2nd, 3rd, and 4th, spiracles dorsal (*i.e.* on connexivum); 5th, 6th, and 7th ventral. The third, fourth and fifth sternites completely fused, no curved suture between third and fourth ventral segments. Two widely separated glandular spots with bristles (trichobothria) on the fused region of base of venter presumably equivalent to those usually present on the fourth segment in the RHYPAROCHROMINAE; two similar spots at base and apex of lateral margin of 6th ventrite, and one glandular spot at lateral apical angle of 7th ventrite. 3rd, 4th, 5th and 6th abdominal tergites all fused, separated only along middle line by three transverse scars of the larval abdominal glands.

Genotype: *Aegyptocoris myrmecoides* sp. n.

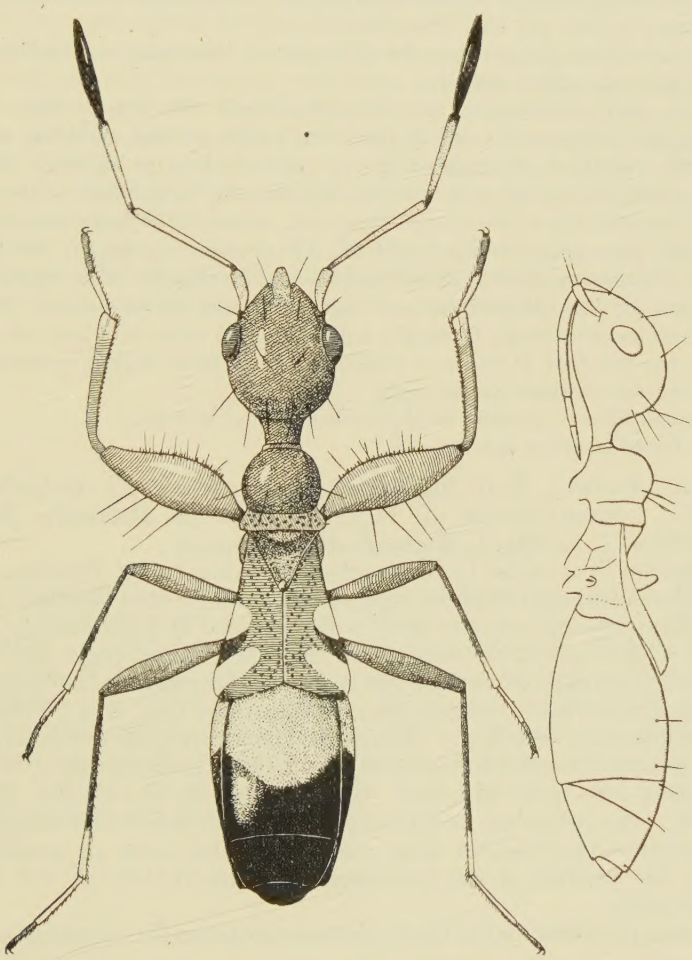


FIG. 1.—*Aegyptocoris myrmecoides* gen. et sp. n. left, general appearance showing colour-pattern; right, lateral view to show structure of scutellum.

Aegyptocoris myrmecoides sp. n.

Colour :—Head testaceous (terra cotta), clypeus deep yellow, eyes ferruginous, antennae brownish-yellow, the apex of first segment pale yellow; base of second segment, base and apex of third segment and whole of fourth, dark brown; rostrum dark brown. Anterior lobe of pronotum testaceous, posterior lobe brownish-yellow; posterior margin of metapleuron broadly pure white. Scutellum testaceous. Hemielytra in brachypterous form yellowish-testaceous, a semilunar spot in middle of costal margin and a broad oblique fascia running from near commissure to just above posterior lateral angle, pure white; area between white markings and posterior lateral angle, black or dark fuscous. Coxae, trochanters and femora yellowish-testaceous; anterior femora pale yellow with dark brown stripe down outside; middle and hind femora pale yellow with apical halves dark brown; tarsi pale yellow shading to fuscous on last two segments. Abdomen yellowish-testaceous, the apical two-fifths, black. Macropterous form similar but eyes black, extreme apex of clavus and whole of apical fourth of corium black, the white markings the same as in brachypterous form; apex of middle femur, apical two-thirds of hind femur and apical three-quarters of middle and hind tibiae fuscous.

Structure :—Almost glabrous save for the antennae, tibiae and tarsi and the regularly placed long pale hairs shown in figure.

Head very finely shagreened; first antennal segment extending to apex of clypeus, relative lengths of segments 14 : 39 : 30 : 35; first rostral segment extending to apices of eyes, relative lengths of segments 20 : 20 : 13 : 15, head capsule including clypeus five times longer than cylindrical neck (50 : 10) and distinctly longer than wide across eyes (50 : 38). Pronotum three times longer than neck, anterior lobe finely shagreened about two and a half times longer than posterior lobe (22 : 9) which is punctate; anterior lobe at widest part of pronotum much narrower than head across eyes (25 : 38). Scutellum transversely rugose on disc. Hemielytra very narrow at base, the meso-pleura visible from above. Front femora strongly incrassate, both above and below with long pale bristles in addition to the two rows of spines on underside; front tibiae slightly curved, underside with two even rows of small fuscous teeth.

Total length 3·3 mm., greatest width (across abdomen) 0·76 mm.

Width of head including eyes 0·6 mm.

Habitat.—Egypt : Kafr Hakim : 3 brachypterous ♀♀ (including type), 13.xii.1933; 2 brachypterous ♀♀, 14.ii.1934, Halfa (*R. Mabrouk*); Magadlah : 1 macropterous ♀, xi.1934, V, Halfa (*R. Mabrouk*).

This species lives under Imperata grass according to Dr. Priesner.

The relationships of the genus *Aegyptocoris* are somewhat obscure Although very aberrant in some respects such as the absence of ocelli and the fusion of the third, fourth and fifth ventrites so that the characteristic curved suture between the third and fourth ventrites is absent, this genus undoubtedly belongs to the subfamily Rhyparochrominae (Aphaninae Osh. Kat.), tribe Myodochini (Plociomeraria Osh. Kat.) The general facies are those of the Myodochini; the head is exserted and constricted at base to form a distinct neck, it bears the characteristic setae near the eyes; the front femora are swollen and armed with teeth; the pronotum is laterally obtuse and terete not carinate; it is constricted into two distinct lobes and is provided with an anterior collar. Moreover, the position of the abdominal spiracles D.D.D.V.V.V.* bears out this relationship

There is a precedent in the Rhyparochrominae for the abnormal abdominal

* D = dorsal on connexivum, V = ventral. The only other Lygaeid group with this spiracular formula is the Geocorinae with which *Aegyptocoris* obviously has no affinities.

structure of the venter, for in the genus *Plinthisus* the third ventral suture is straight, not curved, and reaches the lateral margins. There is also a precedent in the LYGAEIDAE for the absence of ocelli, these being totally absent in the genus *Camptocera* Jak. We can reasonably assume therefore that *Aegyptocoris* is a specialised Myodochine.

It is an interesting fact that, so far as is known, only three genera of Myodochini are represented in the Mediterranean Region. Of these both *Orthaea* Dall., and *Paromius* Fieb., are represented in America and also extend to the far East. Only the Algerian *Marmottania* Put., is truly endemic to this region, and *Aegyptocoris* although very different can be said to approach this genus more closely than any other Palaearctic genus.

The Myodochini are properly speaking a central and north American group a few genera of which, such as *Orthaea*, have spread over the world. It is therefore not surprising to find that *Aegyptocoris* is more closely related to the American genus *Sphaerobius* Uhl., than to *Marmottania* Put. The distribution of the Myodochini once more demonstrates the relationship between the Mediterranean and central American faunae.

The ant-like appearance of *Aegyptocoris* is brought about by the large swollen head and small eyes, the constricted neck, the globose anterior pronotal lobe, the apically reflexed scutellum, abdomen narrowed at base and swollen in middle and the curious colour marking of the abbreviated wings whereby the insect is made to appear more strongly constricted at the waist by the coincidence of the white patch in middle of costal margin and the white posterior margin of the meta-pleuron.

According to my colleague, Mr. H. St. J. K. Donisthorpe, *Aegyptocoris* strongly resembles the light form of the Ant *Monomorium salomonis* L. *subopacum* Smith, but Dr. Priesner has stated that no ants were taken with the bugs.

BOOK NOTICE.

Enumeratio Insectorum Fenniae.

1. Lepidoptera, pp. 16 and 12, 2. Hymenoptera, pp. 15, 3. Hemiptera, pp. 13, 4. Ordines minores, pp. 20, 5. Coleoptera, pp. 58. 8vo. Helsingfors, (1933)–(1936). Helsingfors Entomologiska Bytesförening. F. Marks 50.00.

This series of lists of Finnish Insects is compiled and published by the Entomological Society of Helsingfors. Each part is published separately, printed in double column and lists the insects concerned in systematic order.

The lists appear to give prices at which specimens can be supplied and could also be used as label lists. The later parts give the names of the specialists concerned in the compilation.

TERIAS JORDANI (CBT. & PEND.) (LEPIDOPTERA: PIERIDAE)

By A. Steven Corbet, D.Sc., Ph.D., F.I.C., F.R.E.S.

In 1932 (*Bull. Raffles Mus.*, **7** : 180) Corbet and Pendlebury described *jordani*, which they took to be a race of *andersoni* Mre., from 2 females from Sikkim and a female from Bhutan. These females had the usual *andersoni* underside and were remarkable for the elongated fore-wing bearing a broad, inwardly diffuse, basal border, and giving a superficial resemblance to *T. tilaha* Hsf. I have now had the opportunity of examining a remarkable male *Terias* from Sikkim which undoubtedly corresponds to the females mentioned above: this male has the usual *andersoni* underside, but the hind-wing above has an unusually broad black border and the fore-wing has indications of a black basal border.

Recently, *Terias montivaga* Roepke, 1935, has been described from Java and Sumatra: this species has the usual *andersoni* underside and, although the male is coloured greenish-yellow and the female is greenish-white, the absence of a rather broad hind-wing border differentiates it immediately from the Javanese race of *andersoni*. The male claspers of all three species have, in addition to three large and prominent hooks, a terminal peripheral projection which is minute and hardly noticeable in *andersoni* and *jordani* but large and elongated in *montivaga* (Roepke, 1935, *Rhop. Javanica* : 85, fig. 8; Corbet and Pendlebury, 1932, *loc. cit.* : 153, fig. 4).

It is evident that specimens of *andersoni* from new localities deserve close examination.

Terias jordani.

♂. *Upperside.* Fore-wing as in typical *andersoni*, but the lowest portion of the black distal border is continued along the inner margin for about half the length of the wing, decreasing from less than 1 mm. in width to vanishing point, and becoming inwardly diffuse. The hind-wing black border increases in width from the apex to the anal angle, where it becomes very diffuse and attains a width of 5 mm. *Underside.* Colour and markings as in typical *andersoni*, except that the fore-wing apex is unmarked beyond a slight, reddish-brown, diffuse dusting at the points where the veins enter the wing-margins.

Wing expanse, 38 mm.

Neoallotype. Sikkim, June 1906 (the late Brig.-Gen. *E. R. B. Stokes-Roberts*). Presented to the British Museum by Brigadier W. H. Evans.

I am indebted to the authorities of the British Museum (Natural History) for permission to study the unique specimen described* and to Professor W. Roepke for the gift of a pair of co-types of *Terias montivaga*.

* 17.vi.1936. Recently, Brigadier W. H. Evans has presented two *Terias* males from Sikkim (June 1907) to the British Museum and these specimens agree with typical *andersoni* Mre. in all respects: the conclusion that *andersoni* and *jordani* are specifically distinct is thus strengthened.